

REMARKS

Applicants request favorable reconsideration and allowance of this application in view of the foregoing amendments and the following remarks.

Applicants further request consideration of the art cited in the Information Disclosure Statement concurrently filed herewith.

Claims 1-3, 5-8 and 15-21 are pending in this application, with Claims 1, 15, 16, 18, 19, 20 and 21 being independent. Claims 15-21 have been allowed.

Claim 1 has been amended. Applicants submit that support for the amendments can be found in the original disclosure, and therefore no new matter has been added.

Applicants appreciate the indication that Claims 15-21 have been allowed. For the reasons presented below, Applicants submit that Claims 1-3 and 5-8 should also be allowed.

Claims 1-3 and 5-8 stand rejected under 35.U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,222,937 (Cohen, et al.). Applicants respectfully traverse this rejection for the following reasons.

As recited in independent Claim 1, the present invention is directed to a marker layout method. In particular, it is directed to a method for laying out markers in a real space as position indices upon presenting a mixed reality space shared by a plurality of players. A mixed reality space is generated by mixing together images from a real space and from a virtual space. The method recited in Claim 1 is directed to addressing problems that may occur when a plurality of players are sharing such a mixed reality space and when markers laid out in the real space are used to detect a viewpoint position of a player in the mixed reality space.

In particular, the method recited in Claim 1 recites the feature of laying out the markers to have a positional relationship that allows a given player to observe only markers that are needed by the given player when the plurality of players observe the mixed reality space within their respective movable ranges, wherein the markers are used to detect viewpoint positions of the plurality of players and markers to be used by only the given player are laid out at positions hidden by real objects when the markers are observed from the other players. In other words, the markers are positioned in the real space so that, when players view the shared mixed reality space generated by mixing the real space with a virtual space, a given player sees only those markers needed by that player, and the other players are blocked from seeing markers needed only by that player. Applicants submit that the cited art fails to disclose or suggest at least the above-mentioned features of Claim 1.

Applicants submit that Cohen, et al. discloses, in Fig. 6 and its description, for example, collecting pictures of a subject set on a specially-designed stage by rotating the stage in order to generate a picture from any vantage point above the base plane of the stage. That patent also discloses laying out markers 605 on the walls 602, 604 and the base 603 of the stage, wherein the markers can be used for detecting a camera position from which a picture has been taken. The detected positions 703 are displayed in a GUI as shown in Fig. 7.

However, Applicants submit that the pictures collected in Cohen, et al. are for the purpose of reconstructing a picture from any vantage point based on pictures taken from different vantage points, and not for the purpose of generating a mixed reality space by mixing a real space and a virtual space. Thus, Applicants submit that Cohen, et al. does

not disclose or suggest a mixed reality space, much less one shared by a plurality of players, and does not disclose or suggest laying out markers in a real space for detecting a viewpoint position of a player in a mixed reality space.

Moreover, since that patent is not concerned with detection viewpoint positions of players sharing a mixed reality space, it does not address the problem addressed by Claim 1 and does not disclose or suggest the claimed positional relationship for laying out markers. Specifically, Applicants submit that Cohen, et al. does not disclose or suggest laying out markers with a positional relationship that allows a given player to observe only the markers that are needed by that player, and wherein markers to be used by only the given player are hidden by real objects when observed from the other players.

While Cohen, et al. mentions occlusion of a marker (Col. 7, lines 24-26), it does not disclose or suggest laying out markers to have the above-mentioned positional relationship recited in Claim 1. Instead, the markers 605 in Cohen, et al. are mapped or laid out regularly on the walls 602, 604 and the base 603, without any consideration during the laying out step as to whether any of the markers will be occluded by an object. This regular placement of the markers is in stark contrast to the feature of Claim 1 that markers to be used only by a given player are laid out at positions hidden from other players by real objects.

For the foregoing reasons, Applicants submit that Claim 1 is also patentable over the cited art. The dependent claims are believed patentable for at least the same reasons as Claim 1, as well as for the additional features they recite.

In view of the foregoing, Applicants submit that this application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-

mentioned Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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